

## CLAIMS

1. An apparatus for suppressing intersymbol interference in a received communication channel of an XDSL modem and the apparatus comprising:

means for adjusting the sampling rate of a received communication channel;

5 means for adjusting the demodulation rate of the received communication channel to correspond with the sampling rate; and

a variable time domain equalizer (TEQ) with a plurality of taps into the received communication channel and the TEQ responsive to an adjustment of the sampling rate to vary at least one of a number of taps and a delay between taps.

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2. An time domain equalizer (TEQ) for suppressing intersymbol interference in a received communication channel of an XDSL modem and the TEQ comprising:

15 a delay line accepting successive portions of the received communication channel;

weighted taps off of said delay line with each tap accepting input from a corresponding portion of the received communication channel and scaling said portion by an associated weighting coefficient to provide a corresponding scaled output;

20 a summer coupled to said weighted taps to sum the weighted outputs there from; and

means for varying at least one of a number of weighted taps providing output to said summer and a delay between taps.